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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,218	06/27/2003	Michio Yamashita	04329.3085	5693

22852 7590 01/31/2006

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EXAMINER
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PATEL, ANAND B

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/607,218	YAMASHITA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anand Patel	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 6 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-11, 13 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No 6513124 to Furuichi et al (Furuichi).

- As per claim 1, Furuichi discloses a method of controlling a clock frequency of a processor, comprising:
  - Acquiring an executable instruction count per unit time of the processor (column 3, lines 5-7);
  - Acquiring a clock count per unit time of the processor (column 5, lines 19-27);
  - Determining whether a ratio of the executable instruction count to the clock count exceeds a predetermined value (column 3, lines 7-14); and
  - Controlling the clock frequency of the processor in accordance with a result of the determination (column 3, lines 7-14).
- As per claim 9, Furuichi discloses an electronic apparatus, comprising:
  - A clock oscillator configured to supply a clock signal (9);
  - A processor (3) configured to generate an internal clock on the basis of the clock signal supplied from the clock oscillator (column 4, lines 32-35); and

- A control unit (19) configured to control a frequency of the internal clock in accordance with a ratio of an executable instruction count per unit time to a clock count per unit time of the internal clock generated by the processor (column 4, lines 55-59, 63-65).
- As per claim 2, Furuichi discloses the method wherein a series of power control monitoring and controlling steps are repetitively executed at a predetermined time interval (column 8, lines 54-56). Furuichi discloses the specific steps as outlined above.
- As per claim 3, Furuichi discloses the method wherein the predetermined time interval is changeable (column 8, lines 54-56).
- As per claim 4, Furuichi discloses the method wherein the control includes controlling to decrease the clock frequency of the processor when the ratio is determined not to exceed the predetermined value (it is inherent that this limitation is met given the explanation of the opposite conditions cited in column 3, lines 8-14).
- As per claims 5, 11, Furuichi discloses the method wherein the determination includes determining whether a ratio of i) a difference between two executable instruction counts acquired successively (the inherent  $I_{u2}-I_u$  calculation given that the rate of change is being calculated) to ii) the clock count exceeds a predetermined value (column 3, lines 21-26).
- As per claims 7, 13, Furuichi discloses the method wherein the control includes increasing the clock frequency when the ratio is determined as a result of the determination to exceed the predetermined value, and decreasing the clock frequency when the ratio is determined not to exceed the predetermined value (column 3, lines 21-26).
- As per claim 8, Furuichi discloses the method wherein the predetermined value is changeable (column 7, line 65).
- As per claim 10, Furuichi discloses the apparatus wherein the control unit (19) determines whether a ratio of the executable instruction count to the clock count exceeds a predetermined value

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(column 3, lines 7-14) and controls a clock frequency of the processor in accordance with a result of the determination (column 3, lines 7-14; column 4, lines 63-65).

*Allowable Subject Matter*

3. Claims 6, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose or suggest comparing a ratio of a sum of executable instruction counts which are successively acquired and multiplied by a predetermined weighting factor to a sum of clock counts which are successively acquired and multiplied by a predetermined weighting factor to a predetermined value in order to determine how to vary the frequency of a processor.

*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:
- US Patent No 6931559 to Burns et al teaches using instructions per clock cycle as a means for determining when to change the power characteristics of the processor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Patel whose telephone number is (571) 272-7211. The examiner can normally be reached on Mon-Fri 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ABP

  
**LYNNE H. BROWNE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**